

What is claimed is:

1. A system for skill management of a plurality of knowledge workers in a software industry based on continuous tracking of skills obtained by said knowledge workers, said system comprising:
 - 5 (a) a skill organizer subsystem for tracking of skills of said plurality of knowledge workers, said skill organizer comprising: a qualification management element for managing skills of said plurality of knowledge workers based on qualification; a resume management element for managing skills of said plurality of knowledge workers based on resume; and a project information management element for
10 managing skills of said plurality of knowledge workers based on project information;
 - (b) a skill assessment subsystem for assessing skills of said plurality of knowledge workers;
 - (c) a skill evolution subsystem for incrementally updating skills of said plurality of
15 knowledge workers;
 - (d) a skill matching subsystem for matching skills of said plurality of knowledge workers with respect to a set of requirements; and
 - (e) a skill representation subsystem for managing representation of a plurality of key elements of said system comprising qualification, resume, reference, past work
20 experience, and current work experience.
2. The system of claim 1, wherein said qualification management element of said skill organizer subsystem comprises means for processing qualification information of a knowledge worker comprising consistency verification of qualification information of
25 said knowledge worker, and consistency verification of qualification information with related information associated with said knowledge worker.
3. The system of claim 1, wherein said resume management element of said skill organizer subsystem comprises means for processing information contained in a
30 resume of an entry level knowledge worker comprising extraction of qualification,

field of study, and grade from said resume, and consistency verification of information contained in said resume of said entry level knowledge worker.

4. The system of claim 3, wherein said resume management element further comprises
5 means for processing information contained in a resume of an experienced knowledge worker comprising extraction of qualification, field of study, and grade from said resume, extraction of field of work, major area, and grade related to a plurality of experiences of said experienced knowledge worker, extraction of field of work, major area, and grade from a plurality of references provided by said experienced
10 knowledge worker, and consistency verification of information contained in said resume of said experienced knowledge worker.
5. The system of claim 1, wherein said project information management element of said skill organizer subsystem comprises means for processing project related information
15 on completion of a project comprising processing of project profile and project plan of said project, identification of a plurality of work items of said project, identification of a plurality of knowledge workers assigned to each of said plurality of work items, obtaining a plurality of skills associated with each of said plurality of work items, extraction of field of work, major area, and grade for each of said
20 plurality of knowledge workers of each of said plurality of work items, and consistency verification of skill grade information of each of said plurality of knowledge workers of each of said plurality of work items.
6. The system of claim 1, wherein said skill assessment subsystem comprises means for
25 assessing basic skills of a knowledge worker, wherein said assessment is based on qualification of said knowledge worker, field of study of said knowledge worker, and domain specialization of said knowledge worker, and wherein said assessment comprising determination of qualification, field of study, and grade of said
knowledge worker, determination of a skill grade of said knowledge worker based on
30 application of a plurality of rules using qualification, field of study, and grade of said

knowledge worker, and consistency verification of said skill grade of said knowledge worker.

7. The system of claim 6, wherein said skill assessment subsystem further comprises
5 means for assessing advanced skills of an experienced knowledge worker, wherein said assessment is based on qualification, field of study, field of work, and references related to said experienced knowledge worker, and said assessment comprising determination of a plurality of work experiences of said experienced knowledge worker, assignment of a weight to each of said plurality of work experiences,
10 determination of a skill grade based on said weight of each of said plurality of work experiences, scaling of said skill grade based on a plurality of referrals, and consistency verification of said skill grade of said experienced knowledge worker.
8. The system of claim 1, wherein said skill evolution subsystem comprises means for
15 incrementally updating skills of a knowledge worker based on working on a project comprising determination of a plurality of major areas of contribution of said knowledge worker in said project, assessment of a skill grade based on a plurality of metrics of said project and a plurality of project end appraisals of said project, consistency verification of said skill grade of said knowledge worker, determination
20 of an overall skill grade using a plurality of skill grades of said knowledge worker based on a plurality of project experiences of said knowledge worker and a plurality of training experiences of said knowledge worker.
9. The system of claim 8, wherein said skill evolution subsystem further comprises
25 means for incrementally updating skills of a knowledge worker based on a training program comprising determination of a plurality of major areas of training of said knowledge worker in said training program, assessment of a skill grade based on a plurality of metrics of said training program and a plurality of training end appraisals of said training program, consistency verification of said skill grade of said
30 knowledge worker, determination of an overall skill grade using a plurality of skill

grades of said knowledge worker based on a plurality of project experiences of said knowledge worker and a plurality of training experiences of said knowledge worker.

- 5 10. The system of claim 1, wherein said skill matching subsystem comprises means for matching a skill of a knowledge worker with respect to a project specific skill for a period, wherein said matching is based on nearness of said skill and said project specific skill with respect to a skill hierarchy, extent of availability of said knowledge worker during said period, and combined evaluation based on said skill of said knowledge worker, availability of said knowledge worker during said period, said project specific skill, and said skill hierarchy.
- 10 11. The system of claim 10, wherein said skill matching subsystem further comprises means for skill matching of a plurality of knowledge workers and a plurality of skills related to a project comprising analyzing said project to determine period and number of resources required with each of said plurality of skills, division of said plurality of skills into a plurality of non-overlapping subsets of said plurality of skills, and near-optimal assignment of a subset of said plurality of knowledge workers to said project based on each of said plurality of non-overlapping subsets.
- 15 12. The system of claim 10, wherein said skill matching subsystem further comprises means for iterative skill matching of a plurality of skills, with each of said plurality of skills requiring a plurality of knowledge workers over a distinct period, comprising determination of a plurality of singleton skills based on said plurality of skills with each of said plurality of singleton skills requiring only one knowledge worker, and optimal assignment of a plurality of knowledge workers based on extent of match of a plurality of skills of said plurality of knowledge workers with said plurality of singleton skills, and extent of availability of said plurality of knowledge workers during said distinct period of each of said plurality of singleton skills.
- 20 25 13. The system of claim 10, wherein said skill matching subsystem further comprises means for optimal resource assignment based on a skill matrix and a resource matrix,
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wherein said skill matrix depicts a plurality of basic skills and a plurality of skills that are nearer to each of said plurality of basic skills with respect to a skill hierarchy, and said resource matrix depicts the availability of a plurality of knowledge workers with respect to said plurality of basic skills, comprising maximization of summation of a plurality of products of each of plurality of elements of said resource matrix with a corresponding element of said skill matrix, ensuring that a knowledge worker is assigned only once, ensuring that number of knowledge workers assigned is equal to the number of distinct skills in said plurality of basic skills, and ensuring that a knowledge worker is either assigned or not assigned.

14. A network based system for skill management comprising:

- (a) a plurality of local skill management systems;
- (b) a network for interconnecting said plurality of local skill management systems;
- and
- (c) a central skill manager for managing interconnection of said plurality of local skill management systems.

15. The system of claim 14, wherein said central skill manager comprises means for distributed processing of a requirement for a plurality of knowledge workers comprising heuristic based partitioning of said requirement into a plurality of blocks, distributing said plurality of blocks to a plurality of skill management systems, and combining results received from said plurality of skill management systems.